

## **SPRING VALLEY FUDS**

### **POINTS OF INTEREST**

**POI 1 (Circular Trenchs)** - POI 1 was identified as the Sedgwick Trench. The Army performed extensive field testing of CWA such as mustard, phosgene, chloropicrin, and cyanogen chloride at this site. The Sedgwick Trench is comprised of circular trenches approximately 200 feet in diameter. Livens and 75 millimeter (mm) shells with agent were statically fired in the center of the circular trenches.

**POI 2 (Possible Pit)** - POI 2 is the possible location of a pit used for the disposal of scrap metal, duds, and other material associated with the Sedgwick Trench. This conclusion was drawn by analogy with the circular trenches and associated disposal pit located on 52<sup>nd</sup> Court. POI 2 is located adjacent to the Sedgwick Trench, to the southeast.

**POI 3 (Small Crater Scars)** - POI 3 consists of small crater scars.

**POI 4 (Possible Pit)** - POI 4 is the possible location of a pit used for the disposal of scrap metal, duds, and other material associated with the Sedgwick Trench. This conclusion was drawn by analogy with the circular trenches and associated disposal pit located on 52<sup>nd</sup> Court. POI 4 is located adjacent to the Sedgwick Trench, to the northeast.

**POI 5 (Possible Pit)** - POI 5 is the location of a possible pit. No additional historical information is available for this area.

**POI 6 (Possible Target or Test Site)** - POI 6 is the location of a possible target or test site referred to on a 1918 topographic map as a "TARGET" area. It is located on a tree-covered hill southeast of POI 9. No additional historical information is available for this area.

**POI 7 (Possible Test Area)** - According to photographic evidence, POI 7 is a possible test area that was originally fenced-in. POI 7 encompasses approximately 41,000 square feet. A ground scar and small white areas similar to the

mustard test fields were visible within the fenced-in area. Reports indicate these areas were as small as 3 feet square and were used to test for agent persistence. Given the proximity of POI 7 to the Sedgwick Trench (POI 1), it may have also been used as a holding area for animals used in field tests at the experiment station.

**POI 8 (Possible Target or Test Site)** - POI 8 is the location of a possible target on a test site referred to on a 1918 topographic map as a "TARGET" area located on a tree covered hill southeast of POI 9. No additional historical information is available for this area.

**POI 9 (Possible Firing or Observation Stalls)** - POI 9 is a rectangular area. This site is the location of a possible remote firing location or observation stalls. No additional historical information is available for this area. A set of photos in the AUES collection at Fort Leonard Wood show this area as a smoke test area. The 'stalls' were poles where chemical shells were mounted for static test firing.

**POI 10 (Possible Target or Test Site)** - POI 10 is a possible static test site. This site is located approximately 400 feet west of a possible firing line (POI 9).

**POI 11 (Scattered Ground Scars)** - POI 11 are ground scars. This site was identified in a 1918 photograph by ground scars visible on the crest and reverse slope to the west of a hill. A possible firing line or observations stalls (POI 9) are located approximately 350 feet east of this area. To date, seven statically fired 75 mm shells have been located on the surface by a field survey crew in the area around this POI. Numerous subsurface fragments have also been located by magnetometers.

**POI 12 (Possible Graded Area)** - POI 12 has been identified as a possible graded area. No additional historical information is available for this area.

**POI 13 (Circular Trenches)** - POI 13 has been identified as circular trenches that measure approximately 200 feet in diameter. The trenches were used for field testing of CWA, such as mustard, phosgene, chloropicrin, and cyanogen chloride. Initial use of the trenches is believed to have been between July and September 1918.

**POI 14 (Pit)** - POI 14, located adjacent to POI 13, has been identified as a disposal pit for scrap metal, duds, live rounds, and laboratory glassware. The initial use of the pit is believed to have been between July and September 1918. It is also the location of the buried ordnance discovered at 52nd Court during Phase I of Operation Safe Removal.

**POI 15 (Ground Scar)** - POI 15 was identified as a ground scar in a 1918 aerial photograph. It is believed that POI 15 was part of the Mustard Testing Field (POI 16).

**POI 16 (Chemical Persistency Area)** - POI 16 is the Chemical Persistency Test Area located on the former Weaver farm. This large area, approximately 375,000 square feet, was cleared of vegetation and sprayed with mustard agent to test for agent persistence. The EPIC report (USEPA, 1986) had incorrectly speculated that POI 16 was munitions storage pads.

**POI 17 (Possible Pit)** - POI 17 has been identified as a possible pit. No additional historical information is available for this site.

**POI 18 (Small Crater Scars)** - In a 1918 aerial photograph, several small craters that make up POI 18 are visible. This site may be a former impact area.

**POI 19 (Old Mustard Field)** - POI 19 was labeled on a 1918 aerial photograph as an "old mustard field." However, no other historical information describing this area is available. If new areas were used for testing (POI 16 for instance), this area could have been abandoned and marked on a photograph or map for information purposes.

**POI 20 (Ground Scar)** - POI 20 is a large ground scar. Two powder magazines were believed to be located at this site, where ground scars were identified in 1918 aerial photographs. Extensive disturbance at the same site is visible in a 1927 aerial photograph. These photographs do not clearly show whether the magazines are surface or subsurface features.

**POI 21 (Shell Pit)** - POI 21 is a two-chambered shell pit. This concrete-walled shell pit consists of a central explosive chamber flanked by one observation chamber. The

shell pit was used to test the physical properties of explosives, smokes, and CWA. The shell pit is presently covered by a concrete roof and was filled with debris. The debris was removed between October 1994 and January 1995.

**POI 22 (Shell Pit)** - POI 22 is a shell pit that has been incorporated into the foundation of a house.

**POI 23 (Shell Pit)** - POI 23 is a three-chambered shell pit. The concrete-walled shell pit consisted of a central explosion chamber flanked by two observation chambers. The shell pit was used to test the physical properties of explosives and CWA. The shell pit in POI 23 is presently covered by a concrete roof and was filled with debris. The debris was removed between October 1994 and January 1995.

**POI 24 (Probable Pit)** - According to 1918 and 1927 aerial photographs, POI 24 was identified as a probable pit. No additional historical information is available on this site.

**POI 25 (Possible Trenches)** - POI 25 is identified as possible trenches. No additional historical information is available for this site.

**POI 26 (Small Crater Scars)** - POI 26 consists of small crater scars.

**POI 27 (Small Trench or Ditch)** - POI 27 consists of a probable trench or ditch. No additional historical information is available for this site.

**POI 28 (Small Trench or Ditch)** - POI 28 consists of a probable trench or ditch. No additional historical information is available for this site.

**POI 29 (Ground Scar)** - POI 29 consists of a ground scar. No additional historical information is available for this site.

**POIs 30 through 36 (Training Trenches)** - All seven POIs have been identified as trenches of various kinds. The seven trenches were used to train troops in construction and trench warfare techniques and were probably not used for any chemical testing.

**POI 37 (Mill Creek)** - Based upon the historical records search, activities related to the AUES are unlikely to have been performed within this area. However, due to its close proximity to the initial buried ordnance discovered during the Phase I investigation and the possibility that operations may have encroached into the area, Mill Creek was identified as a POI for testing to ensure no contamination existed in this area.

**POI 38 (Bradley Field/Major Tolman's Field)** - POI 38, which is known as Bradley Field/Major Tolman's Field (BF/MTF), was a test area where shells containing adamsite (diphenylchloroarsine [DA]) were fired. This area is located approximately 400 feet south and west of POI 1 (Sedgwick Trench) at the bottom of a ravine surrounded by woods.

**POI 39 (Static Test Fire Area)** - POI 39, the Static Test Fire Area (STFA), includes POI 10 and POI 11 within its boundaries. The STFA is approximately 80 feet wide, and its western edge extends 1,700 feet along the eastern boundary of Dalecarlia Parkway. The STFA is mostly unimproved land that is believed to have been used as a static test fire area for munitions containing chemical agents.

**POI 40 (Ohio Hall)** - Laboratory located at the AUES.

**POI 41 (History Building)** - Laboratory located at the AUES.

**POI 42 (Physiological Laboratory)** - Laboratory located at the AUES.

**POI 43 (Gun Pit)** - Gun pit located at the AUES.

**POI 44 (Chemical Research Laboratory)** - Laboratory located at the AUES.

**POI 45 (Explosives Laboratory)** - Laboratory located at the AUES.

**POI 46 (Canister Laboratory)** - Laboratory located at the AUES.

**POI 47 (Bacteriological Laboratory)** - Laboratory located at the AUES.

**POI 48 (Dispersoid Laboratory)** - Laboratory located at the AUES.

**POI 49 (Pharmacological Laboratory)** - Laboratory located at the AUES.

**POI 50 (Gun Pit)** - Gun pit located at the AUES.

**POI 51 (Fire and Flame Laboratory)** - Laboratory located at the AUES.

**POI 52 (Electrolytic Laboratory)** - Laboratory located at the AUES.

**POI 53 (Baker Valley)** - Baker Valley is suspected to have been located near the western perimeter of the original grounds of AUES. This conclusion is based on comments that were written on the back of 1918-1919 photographs. Several of the photographs of Baker Valley were taken within the fenced area and oriented toward the west. Baker Valley is located on what was the southern slope of the hill where the shell pits were built. This area extends northwest between Glenbrook Road and Indian Lane and northeast into American University.

**POI American University** - According to historical photographs of AUES, many small, temporary buildings and several other buildings and features associated with the research, development, and testing of CWAs were located in the area currently occupied by the American University baseball field. During operations of AUES, several accidents were documented that may have resulted in the release of CWAs. The nature, historical location, and potential current location of these accidents are described in the following paragraphs.

**Manufacturing Shack #8** - The War Department's Chemical Warfare Service identified the following incident in a letter dated September 8, 1918. On August 3, 1918, an explosion occurred at Manufacturing Shack #8 (shown as Building 90 on the 1918 site plan of the AUES). Manufacturing Shack #8 was located in the southwest portion of the AUES in the middle of the current American University baseball field. The explosion occurred in a still during gas distillation. Approximately 8-10 pounds of the gas were released after the still exploded. Three men working at the shack were gassed and a cloud of gas

was carried by the wind in a southeasterly direction for about 1,200 feet. Also affected were the residents of a home located downwind from the shack. Although the chemical composition of the gas is not described, it is most likely that lewisite was being manufactured.

**Furnace** - A report by the War Department documents an explosion at the AUES on February 16, 1918. The explosion occurred inside a furnace where an experiment using a mixture of arsenic and magnesium was being performed. The exact location of the incident is vague; however, two furnace sheds are identified on a 1918 site plan of the AUES. The two structures are the Furnace Shed (Building #82) and the Lead Furnace Shed (Building #99). The Furnace Shed was located on the west/southwest side of the current American University baseball field. The Lead Furnace Shed was located near the WMAL-TV tower. (We have two AUES photos that probably show the results of this explosion.)

**Cylinder and Acid Storage Building** - Several letters and memos document a fire that destroyed the cylinder and acid storage building on May 5, 1919. A discrepancy between letters and memos show that the building was either Building #41 or Building #42; however, from the index on the 1918 AUES site plan the building is probably Building #41, which is identified as the Cylinder and Acid Storage Building. The origin of the fire is attributed to spontaneous chemical combustion. The building was located in the south central portion of the site. An American University building now stands at this location.

**Chloracetophenone Plant** - A November 5, 1918, memo documents the burning of the Chloracetophenone Plant. Chloracetophenone is the active ingredient in tear gas. The fire was a result of an accident in which a bottle of benzol was dropped. The vapor that was released from the bottle was ignited by a flame under an oil bath. The building was completely destroyed. The building is not identified in a 1918 site plan of AUES. The location of the plant relative to current structures is unknown.